

Method: Meconium Collection Preparation

Liners (bamboo disposable liners):

- Section desired amount of liners along perforated edges
- Place liners in 0.1% nitric acid (HNO_3) for 24 hours
- Remove liners from acid and thoroughly rinse with ultra high purity (UHP) water
- Place liners in UHP water for 24 hours
- Remove liners from UHP water and place in laminar flow hood until dry

Bags:

- Fill desired amount of plastic bags with 10% nitric acid (HNO_3) and let sit for 24 hours
- Remove acid and fill with UHP water for 24 hours
- Remove water and place under laminar flow hood until dry

Assembly:

- Fold an individual acid washed liner in half twice
- Place folded liner inside diaper along troughed section where meconium is collected
- Place lined diaper in acid washed plastic bag
- Repeat for desired amount of diapers

Diapers

- Diapers should be purchased to match the brand used at the hospital; Size N (newborn) is good as well as P (preemie), and NP (nano-preemie). You'll mostly need and use the N diapers

Method: Acid Digestion of Meconium

Following Tekran application note: AN2600-10, one gram of meconium was placed in a polypropylene digester tube (Cole-Parmer). Three milliliters of concentrated nitric acid (trace metal grade, BDH VWR Analytical) and 1.5 mL of ultra-pure water were placed in the tube with the meconium and samples were heated at 85°C for 4 hours. At the end of the first heating, samples were removed from the heat block, cooled to room temperature, and 1.0 mL of 30% H_2O_2 (trace metal grade, KMG) was added to each sample. Samples were then returned to the heat block at 70°C for 30 min. At the end of the second incubation, samples were removed from the heat blocks and cooled to room temperature. Samples were diluted to 50 mL with ultra-pure H_2O and analyzed by ICP-MS. Analysis was performed utilizing a Perkin-Elmer ELAN DRC II ICP-MS (Bradford, CT USA) for measurement. The analysis followed EPA method 200.8 protocol (Creed et. al., 1994), modified for the use of a dynamic reaction cell (DRC) to eliminate polyatomic interferences on arsenic and manganese.

Butte Sample Information:

Sample Number	Weight (grams)
1	1.037
2	1.0356
3	1.1098
3 Spike	1.0053
4a	1.0814
4b	1.0354
5	1.0091
6	1.0919
7	1.1518
8	1.1063
9	1.0872
9 Spike	1.0434
10	1.0704
11	0.9345
12	1.096
13a	1.1773
13b	1.143
14	0.9229
15	1.1247
DORM-4	0.2316